

# Cerebrospinal Fluid Analysis

	Neutrophilic (PMN predominant)	Lymphocytic (monocyte predominant)
Low Glucose  (40% of serum ½ hour before or simultaneous)  (usually < 2.2 if not DM)	<p><b>Bacterial meningitis</b></p> <ul style="list-style-type: none"> <li>• Pneumococcus</li> <li>• Meningococcus</li> <li>• Haemophilus</li> <li>• Streptococcus</li> <li>• Listeria</li> </ul> <p><b>Ruptured brain abscess</b></p> <p><b>Amebic meningoencephalitis</b></p> <p><b>DIAM (rarely)</b></p>	<p><b>Tumour</b></p> <ul style="list-style-type: none"> <li>• Meningeal carcinomatosis</li> </ul> <p><b>Infection</b></p> <ul style="list-style-type: none"> <li>• TB meningitis</li> <li>• Fungal meningitis @</li> <li>• Viral meningitis (usually N glucose)</li> </ul> <p>Occasionally</p> <p><b>Autoimmune</b></p> <ul style="list-style-type: none"> <li>• Sarcoid</li> <li>• Wegener's granulomatosis</li> </ul>
Normal Glucose	<p><b>Drug-induced Aseptic Meningitis (DIAM) 75%</b></p> <ul style="list-style-type: none"> <li>• NSAIDs</li> <li>• Antibiotics</li> <li>• IVIG</li> <li>• OKT3 Monoclonal antibodies</li> </ul> <p><b>Subarachnoid bleed (recent)</b></p>	<p><b>Bacteria</b></p> <ul style="list-style-type: none"> <li>• Listeria meningitis</li> </ul> <p><b>Infectious Virions</b></p> <ul style="list-style-type: none"> <li>• Viral meningitis*</li> </ul> <p><b>Parameningeal infection**</b></p> <p><b>Atypicals</b></p> <ul style="list-style-type: none"> <li>• Syphilis meningitis</li> <li>• Lyme meningitis</li> <li>• Mycoplasma meningitis</li> </ul> <p><b>Parasitic meningitis</b></p> <p><b>CNS vasculitis</b></p> <p><b>Lupus cerebritis and vasculitis</b></p> <p><b>Acute demyelinating encephalomyelitis</b></p> <p><b>Medications - DIAM (25%)</b></p> <p><b>Sarcoid (usually low glucose)</b></p>

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Parameningeal infection **AT SERB**

Abscess

- Subdural
- Epidural (spinal)
- Retropharyngeal
- Brain

Thrombophlebitis (cerebral)

Fungi @ **ABC HCC**

- Aspergillus* species
- Blastomyces dermatitidis*
- Candida* species
- Histoplasma capsulatum*
- Coccidioides immitis*
- Cryptococcus neoformans*

\*

Viral **HAVE HILA**

Herpes

- HSV 1 and 2
- Varicella Zoster
- Epstein Bar

Adenovirus

Various

Enteroviruses

- Polio
- Coxsackievirus
- Echovirus

**HIV**

**Influenza A and B**

**LCMV**

**Arbovirus (West Nile)**